UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,044	11/06/2003	Ilya Fine	25815	7398

20529 7590 04/15/2005

NATH & ASSOCIATES
1030 15th STREET, NW
6TH FLOOR
WASHINGTON, DC 20005

EXAMINER	
KREMER, MATTHEW J	

ART UNIT	PAPER NUMBER
3736	

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/702,044	FINE ET AL.	
	Examiner	Art Unit	
	Matthew J Kremer	3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9,17-25 and 29-36* is/are rejected.

7)☒ Claim(s) *8,10-16 and 26-28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/9/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 24-25 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,400,972 to Fine. Fine teaches a pressurizing assembly 12 (Fig. 1 of Fine), a measuring probe 1 (Fig. 1 of Fine), a source of external electromagnetic field 5 (Fig. 1 of Fine), a detecting module 8 (Fig. 1 of Fine), and a control unit 16 (Fig. 1 of Fine) that includes storage, data acquisition and processing utilities (column 8, lines 21-46 of Fine).

3. Claims 24-25 and 32-35 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,587,704 to Fine et al. (Fine).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Fine teaches a pressurizing assembly 2A, a probe 3, a source of an external electromagnetic filed 3A, a detecting module 3B, and a control unit 4 that includes a memory 4A and processor 4B. (Fig. 1 of Fine). In regard to claims 30-32, asymptotic magnitudes are disclosed. (column 6, lines 37-63 of Fine). In regard to claims 33-35, parametric slopes are disclosed. (column 11, lines 57-67 to column 13, line 65 of Fine).

4. Claims 1, 3, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,582,179 to Shimizu et al. (Shimizu). Shimizu teaches creating a condition of artificial blood kinetics using a cuff (Abstract of Shimizu), applying an external electromagnetic field by using an impedance measuring device (column 5, line 10 to column 6, line 3 of Shimizu), and detecting a time response of the medium and generating measured data (Figs. 2A-2B of Shimizu).

5. Claims 1-7, 9, 17-18, 24-25, and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,642,734 to Ruben et al (Ruben). Ruben teaches creating a condition of artificial blood kinetics using a cuff (Fig. 9 of Ruben), applying an external electromagnetic field by using an impedance measuring device (Abstract of Ruben), and detecting a time response of the medium and generating measured data

(column 11, lines 16-27 of Ruben). In regard to claims 2, 4-7, 9, and 30-31, a neural network is used. (column 12, lines 18-30 of Ruben). In regard to claims 24-25, Ruben teaches a pressurizing assembly (Fig. 9 of Ruben), a probe with electrodes (Fig. 4 of Ruben), and a control unit (Fig. 4 of Ruben).

6. Claims 1, 3, and 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,285,894 to Oppelt et al. (Oppelt). Oppelt teaches creating a condition of artificial blood kinetics using a pressure spring 2, applying light from light sources 8, detecting a time response of the medium by a piezoelectric transducer 7a, and generating measured data. (Fig. 5 and column 8, lines 1-52 of Oppelt). In regard to claims 19-22, two pressure pulses are used. (Abstract and column 8, lines 1-52 of Oppelt). In regard to claim 23, glucose is determined. (column 9, lines 14-23 of Oppelt).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 24-25, 30-31, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,827,181 to Dias et al. (Dias) in view of U.S. Patent 6,309,884 to Cooper et al. (Cooper), and further in view of U.S. Patent 5, 111,817 to

Clark et al. (Clark). Dias discloses a system that includes a pressurizing assembly (cuff 51 and tube 52 in Figs. 3A-3B of Dias), a source of an external electromagnetic field (light source 23 in Figs. 3A-3B of Dias), and a detecting module (sensor 25 in Figs. 3A-3B of Dias). Dias discloses that the techniques of US. Patent 4,975,581 to Robinson et al. (Robinson) can be used. (column 4, lines 23-39 of Dias). Robinson teaches the use of a computer 121 (Fig. 5 of Robinson), which includes a memory, data acquisition, and processing unit (column 10, line 19 to column 11, line26 of Robinson). Dias teaches the known blood samples are used to create a calibration model but does not teach whose blood samples to use. Cooper teaches using taking calibration sample from the particular individual (Abstract of Cooper) who uses the measurement device, which would fulfill the requirements of providing samples as set forth in Dias. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use calibration samples from the particular individual using the measurement as disclosed by Cooper since Dias teaches the use of the known blood samples to create a calibration model and Cooper teaches such calibration samples. Dias teaches the inflation and deflation of a pressure cuff (Figs. 3A-3B of Dias) but does not teach how the pressure is controlled. Clark teaches a pump driver 70 (Fig. 2 of Clark) that would fulfill the requirements of providing a means for controlling pressure as required by the combination. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the pump drive of Clark in the combination since a means for controlling pressure is required and Clark teaches such means. In regard to claim 25, a pressure cuff 51 is disclosed. (Fig. 3A-3B

of Dias). In regard to claim 36, glucose is disclosed. (column 11, lines 24-25 of Robinson).

Allowable Subject Matter

9. Claims 8, 10, 11-16, and 26-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter. In regard to claim 8, the prior art does not teach or suggest that "said certain moment is chosen when the response attains its near asymptotic magnitude" which is combined or combinable with the other limitations of claim 8. In regard to claim 10, the prior art does not teach or suggest that "said certain moment is chosen when the response attains its near asymptotic magnitude" which is combined or combinable with the other limitations of claim 10. In regard to claim 11, the prior art does not teach or suggest that "said characteristic parameter is a parametric slope as a ratio between a first function depending on a time response of the medium corresponding to a first frequency of the external electromagnetic field and a second function depending on the time response of the medium corresponding to a second frequency." which is combined or combinable with the other limitations of claim 11. In regard to claim 12, the prior art does not teach or suggest that "this characteristic parameter is a parametric slope defined as a ratio between a first function depending on a time response of the medium

corresponding to a first frequency of the external electromagnetic field and a second function depending on the time response of the medium corresponding to a second frequency" which is combined or combinable with the other limitations of claim 12. In regard to claim 26, the prior art does not teach or suggest that "said pressurizing assembly further includes a secondary occlusion cuff" which is combined or combinable with the other limitations of claim 26. In regard to claim 28, the prior art does not teach or suggest that "said measuring probe includes a photo-acoustic system, where said source of the external electromagnetic field being configured for generating a light beam in the wavelength range where the scattering or absorbing properties of the patients blood are sensitive to provide an acoustic response and where said detecting module is an acoustic detector" which is combined or combinable with the other limitations of claim 28.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Kremer whose telephone number is 571-272-4727. The examiner can normally be reached on Mon. through Fri. between 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Kremer
Assistant Examiner
Art Unit 3736

ERIC F. WINAKUR
PRIMARY EXAMINER